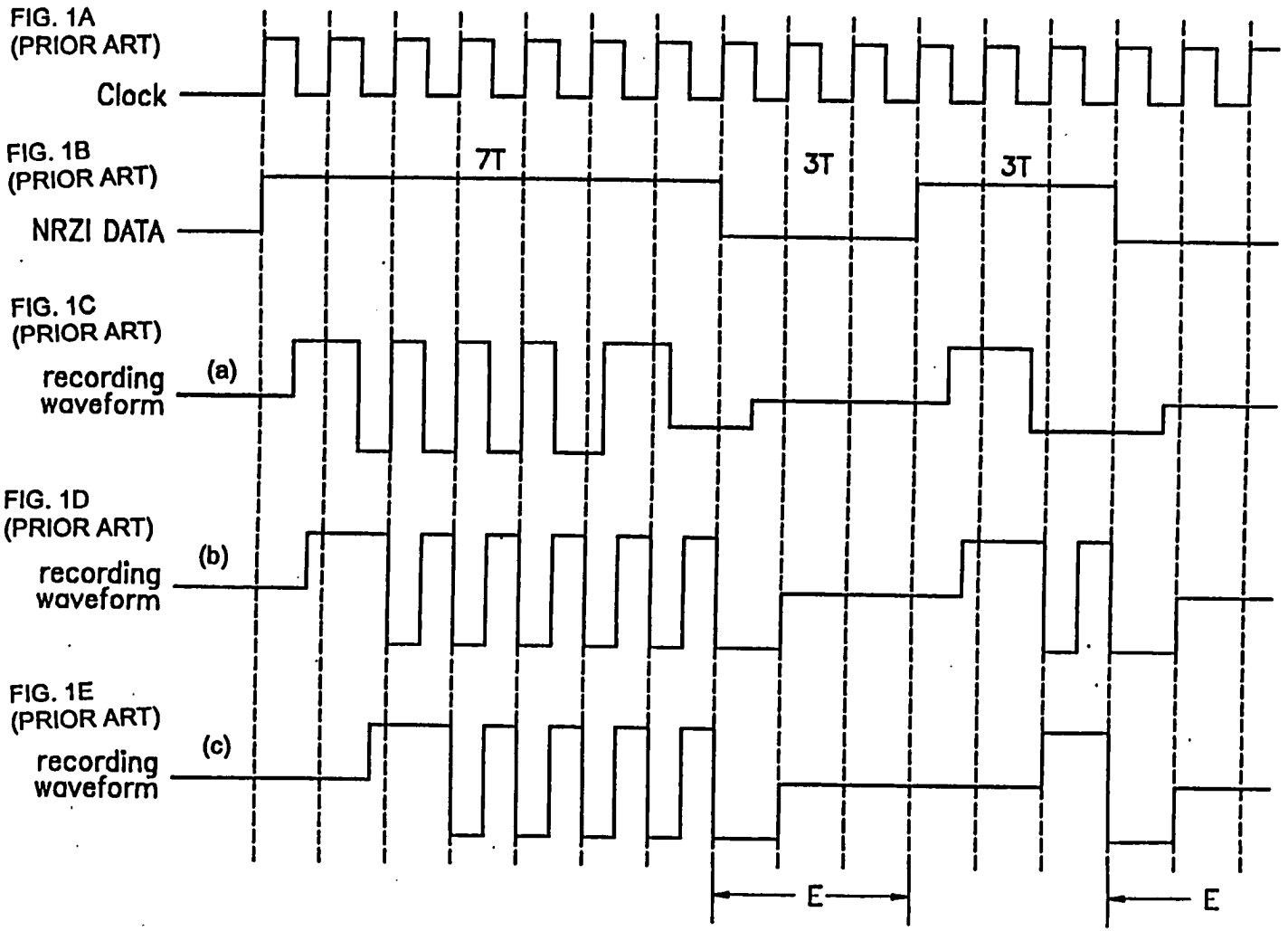


FIG. 1A
(PRIOR ART)
Clock
FIG. 1B
(PRIOR ART)
NRZI DATA
7T
3T
3T
FIG. 1C
(PRIOR ART)
recording
waveform
(a)
FIG. 1D
(PRIOR ART)
recording
waveform
(b)
FIG. 1E
(PRIOR ART)
recording
waveform
(c)
E
E

FIG. 2

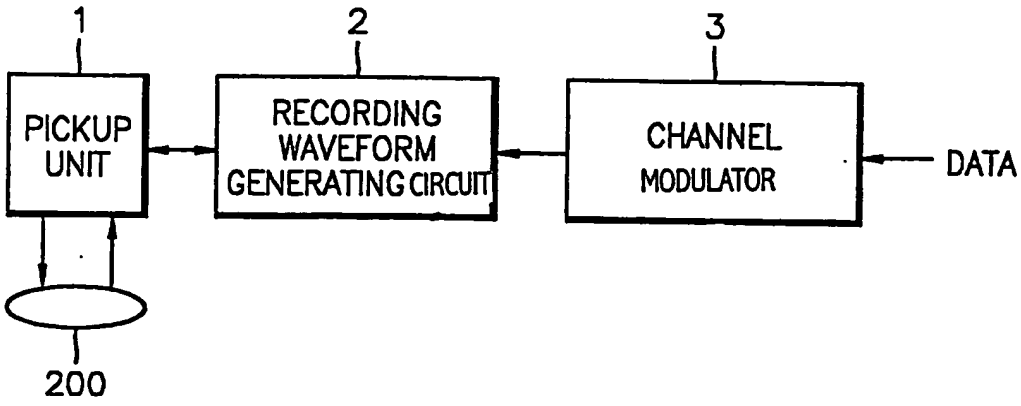
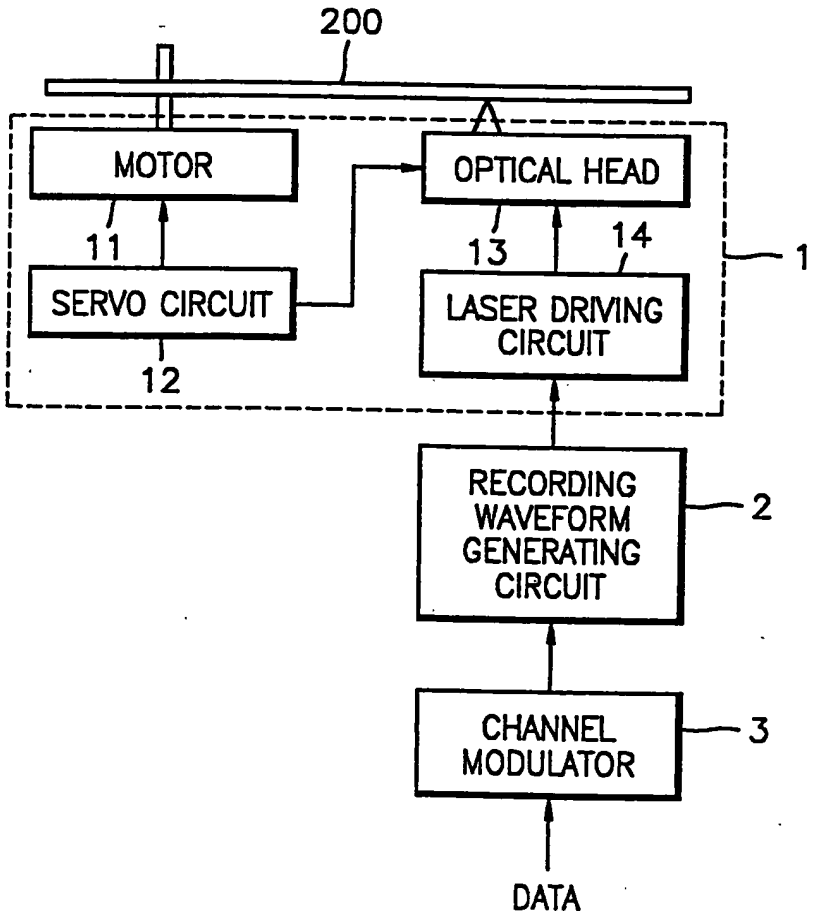

1
2
3
PICKUP UNIT
RECORDING WAVEFORM GENERATING CIRCUIT
CHANNEL MODULATOR
DATA
200

FIG. 3


200
MOTOR
OPTICAL HEAD
11
13
14
1
SERVO CIRCUIT
LASER DRIVING CIRCUIT
12
RECORDING WAVEFORM GENERATING CIRCUIT
2
CHANNEL MODULATOR
3
DATA

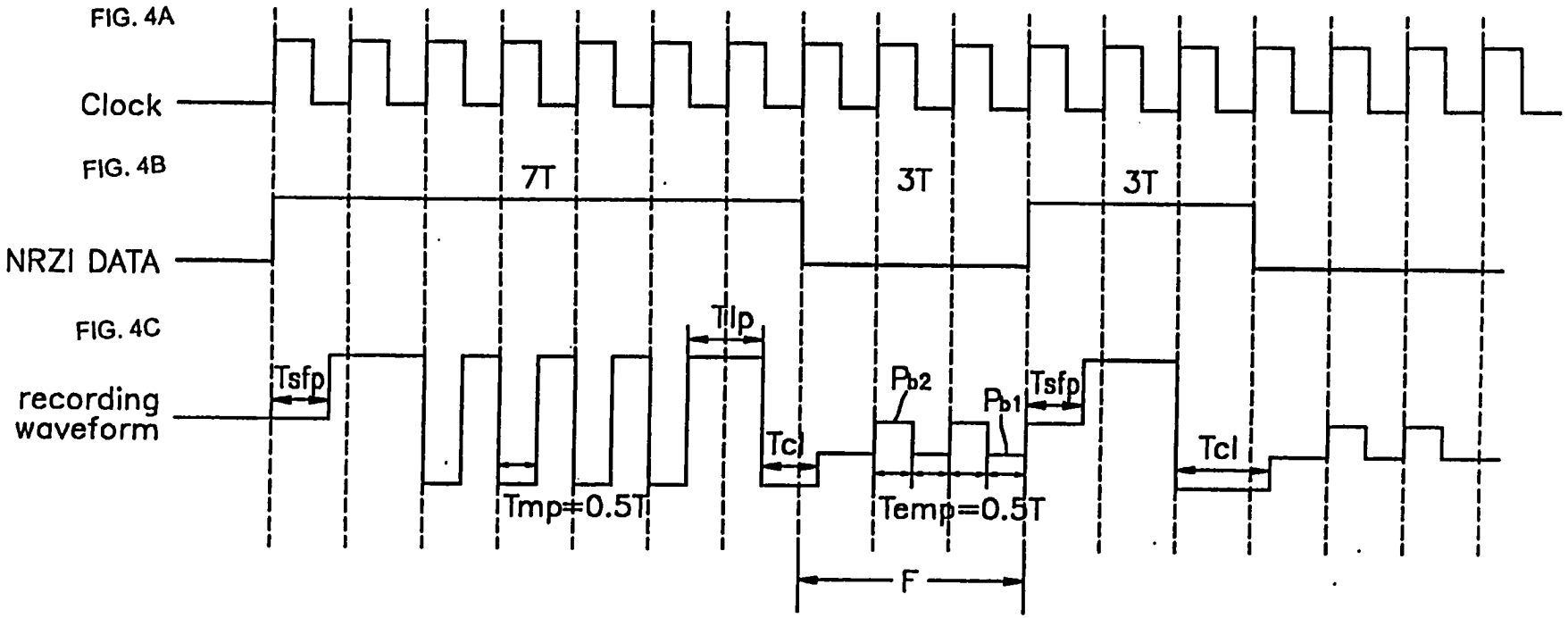


FIG. 4A
Clock
FIG. 4B
7T
3T
3T
NRZI DATA
FIG. 4C
Tsfp
Tilp
Pb2
Pb1
Tsfp
recording waveform
Tcl
Tcl
Tmp=0.5T
Temp=0.5T
F

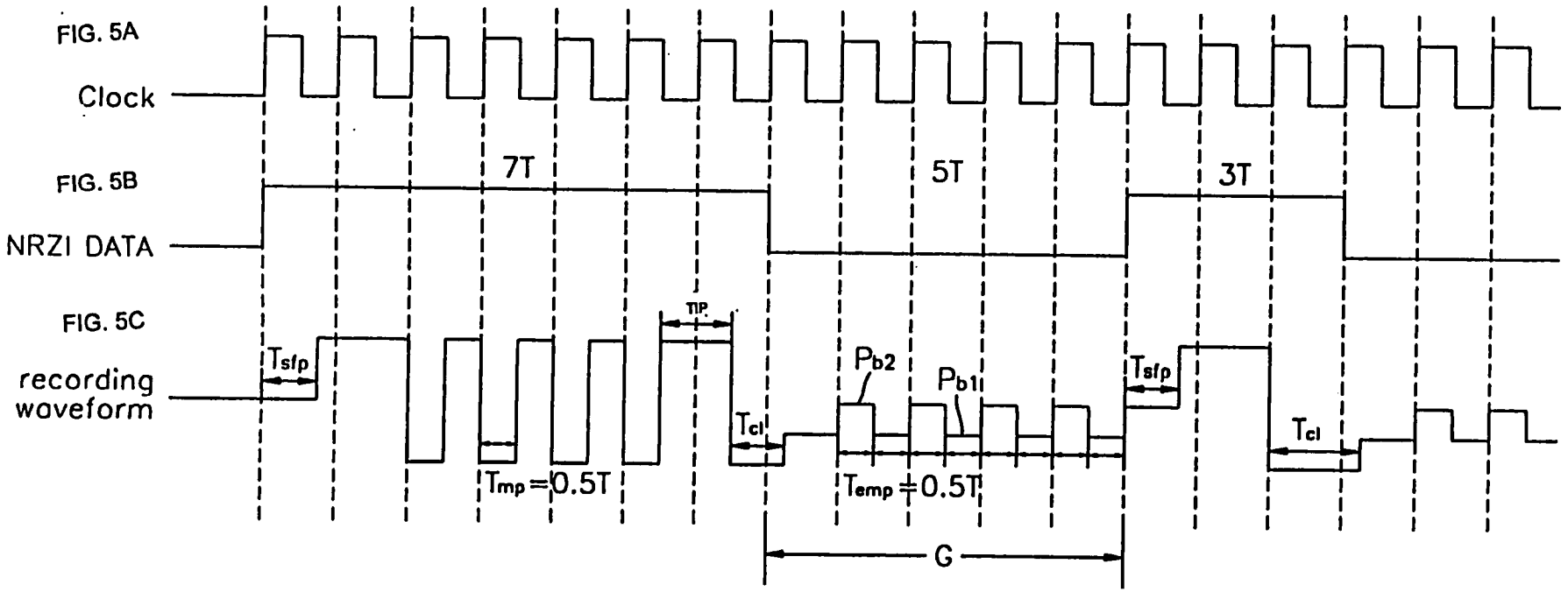


FIG. 5A
Clock
FIG. 5B
NRZI DATA
FIG. 5C
recording waveform
7T
5T
3T
TIP
Tsfp
Tcl
Pb2
Pb1
Tsfp
Tcl
Tmp=0.5T
Temp=0.5T
G

FIG. 6A

FIG. 6B

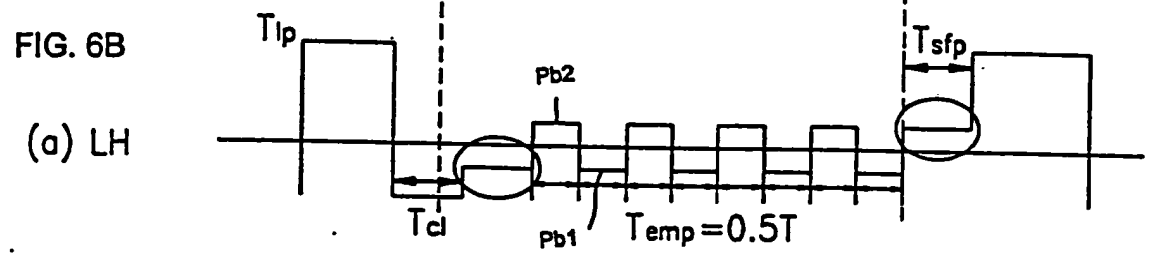


FIG. 6C

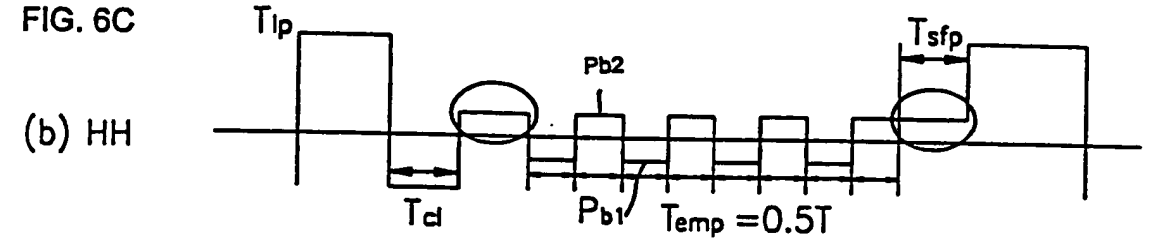


FIG. 6D

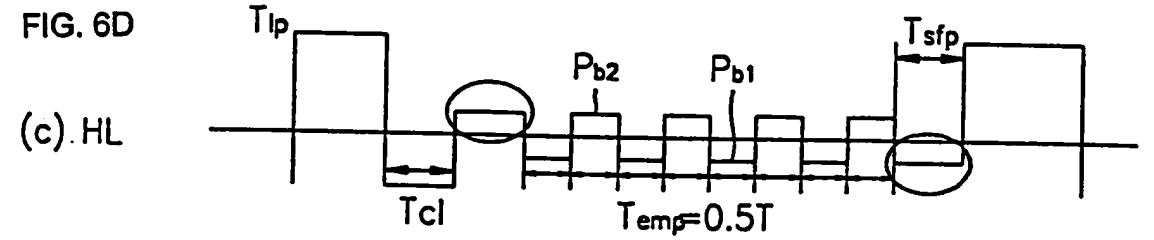


FIG. 6E

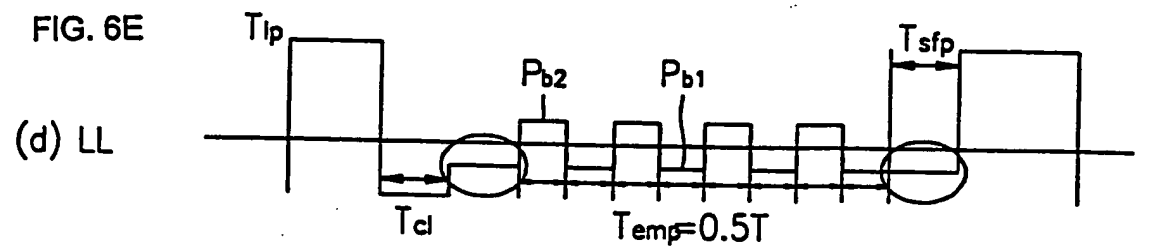


FIG. 7A

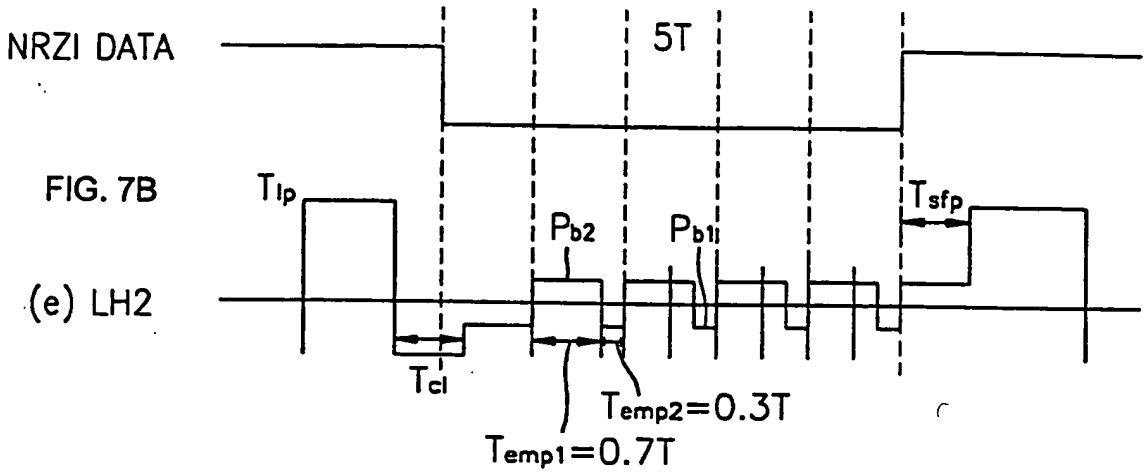


FIG. 7B

FIG. 7C

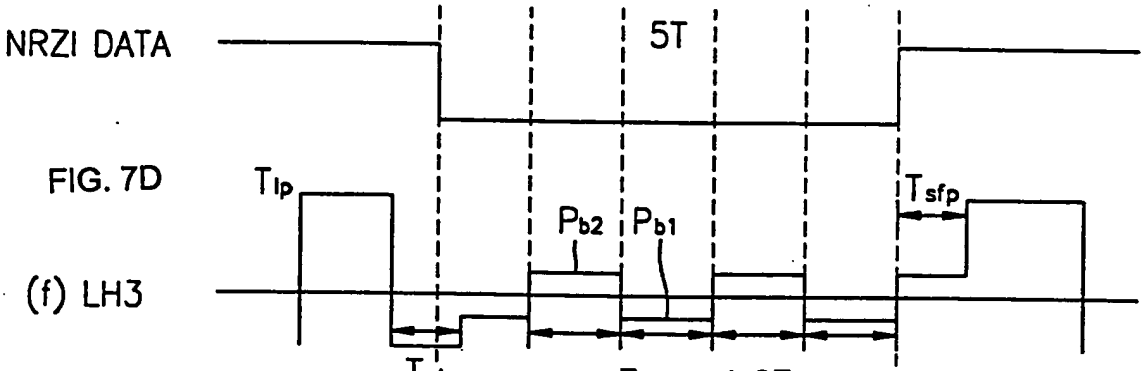
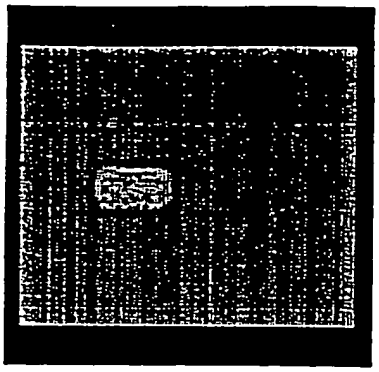


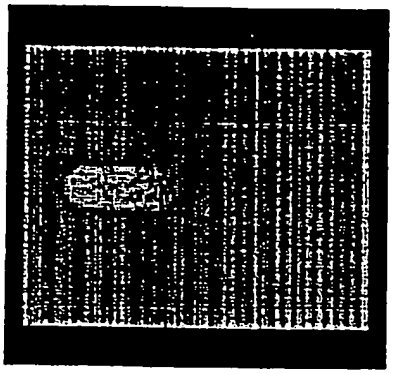
FIG. 7D

FIG. 8A



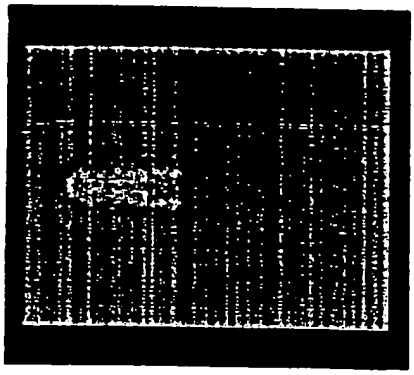
(a)

FIG. 8B



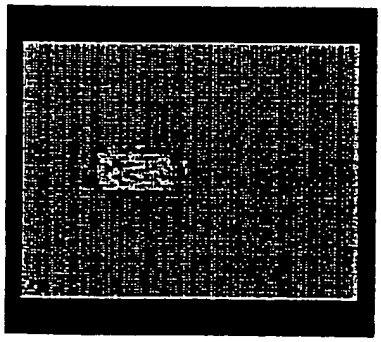
(b)

FIG. 8C



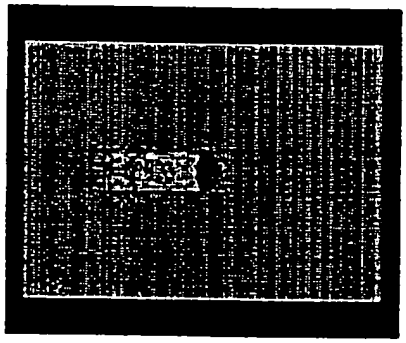
(c)

FIG. 9A



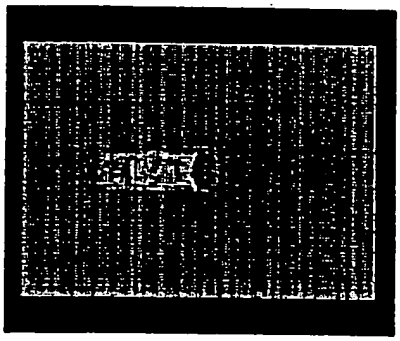
(d)

FIG. 9B



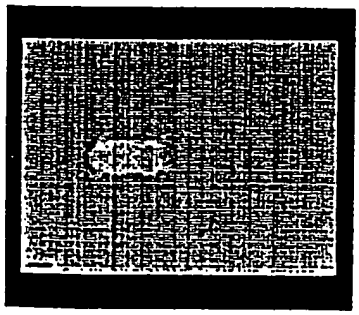
(e)

FIG. 9C



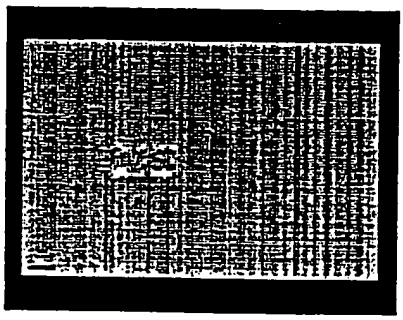
(f)

FIG. 10A



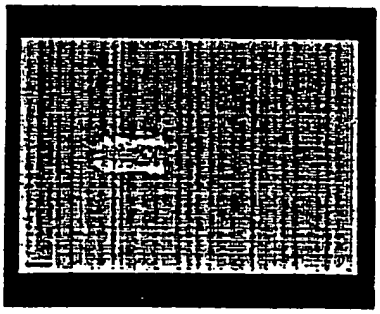
(g)

FIG. 10B



(h)

FIG. 10C



(i)

FIG. 11A (PRIOR ART)

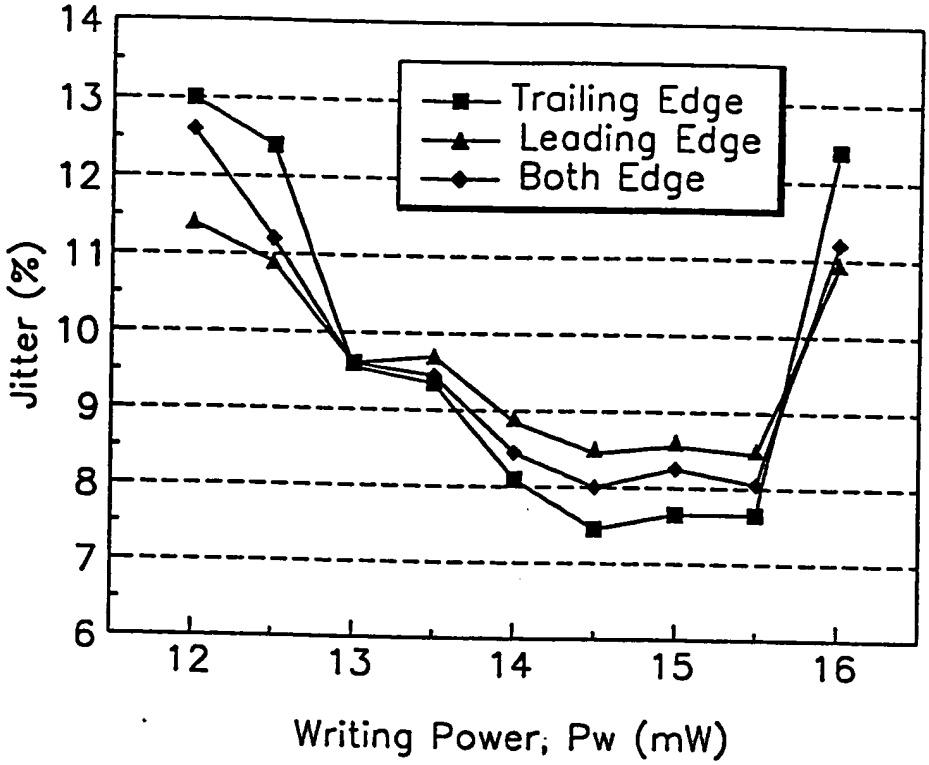
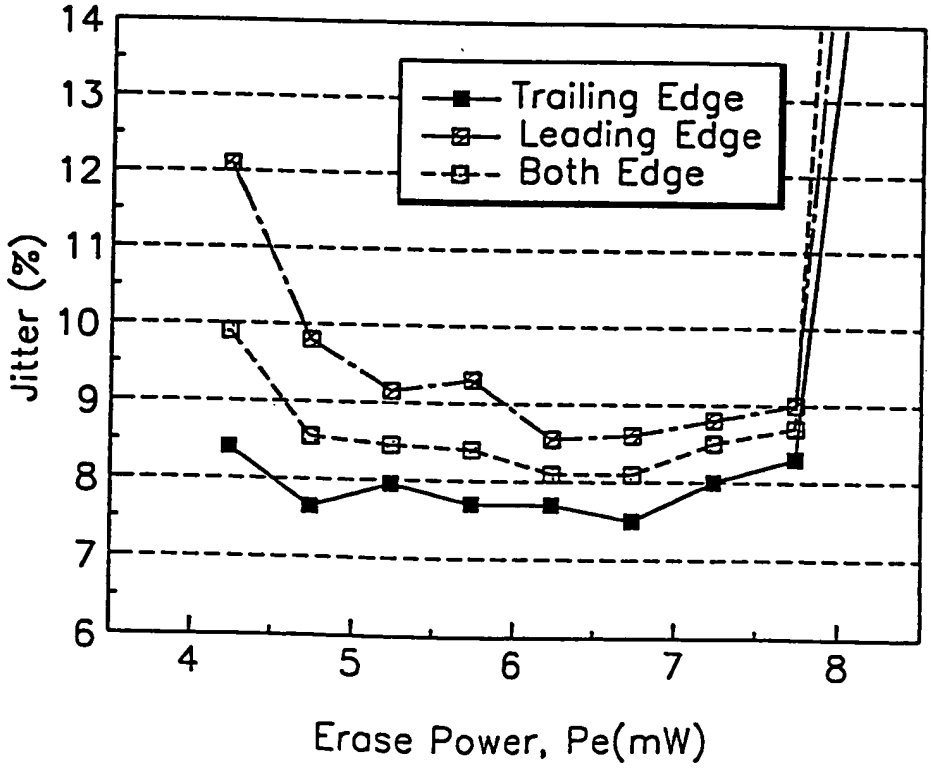


FIG. 11B (PRIOR ART)



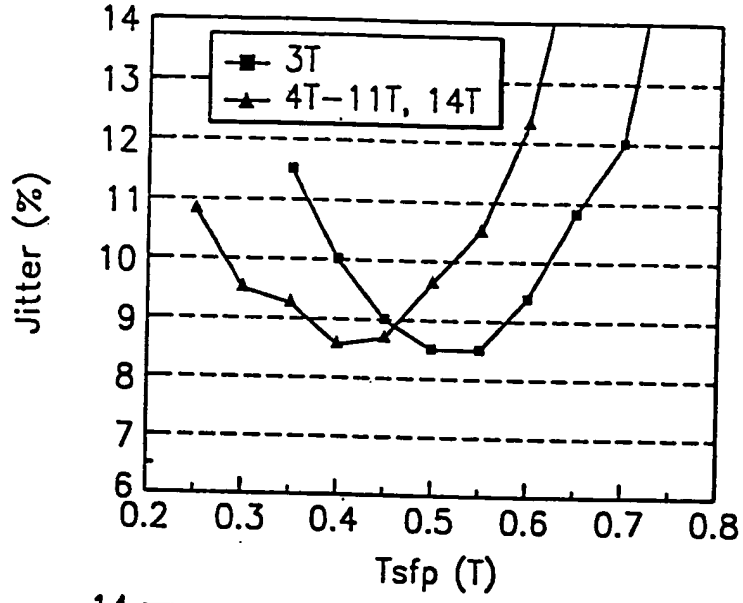


FIG. 12A
(PRIOR ART)

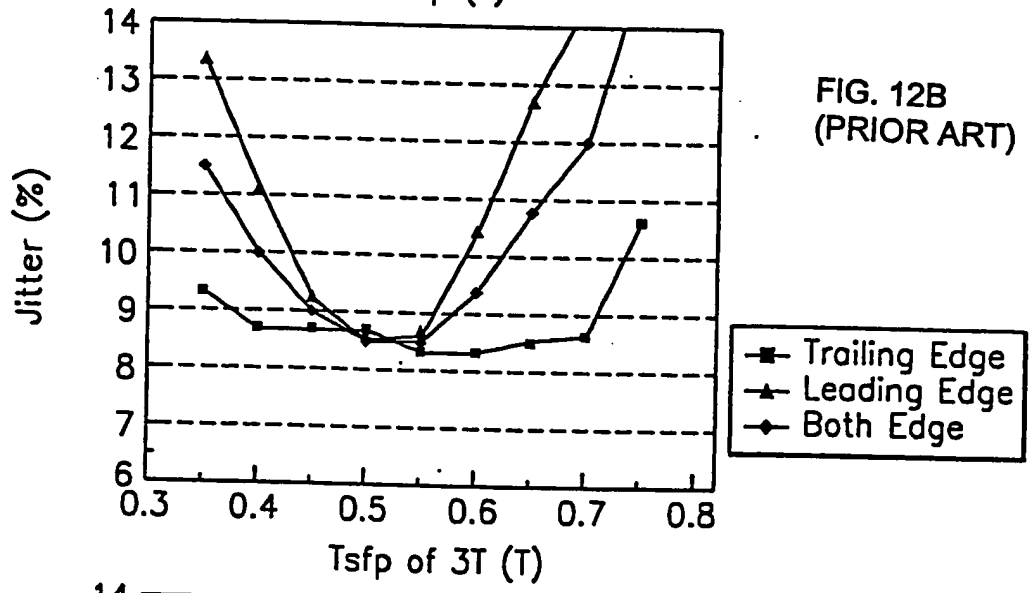


FIG. 12B
(PRIOR ART)

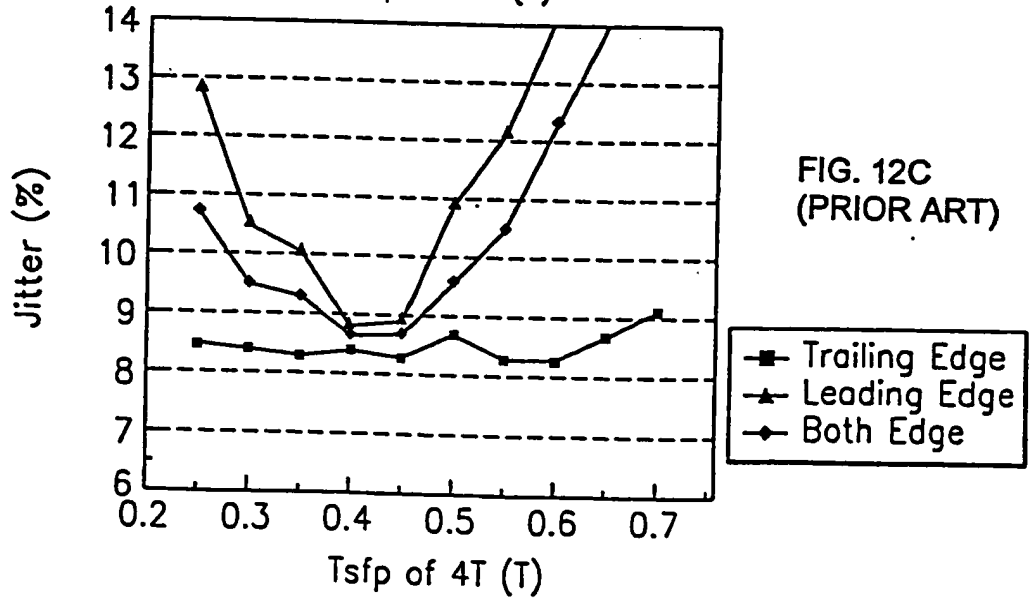


FIG. 12C
(PRIOR ART)

(a)

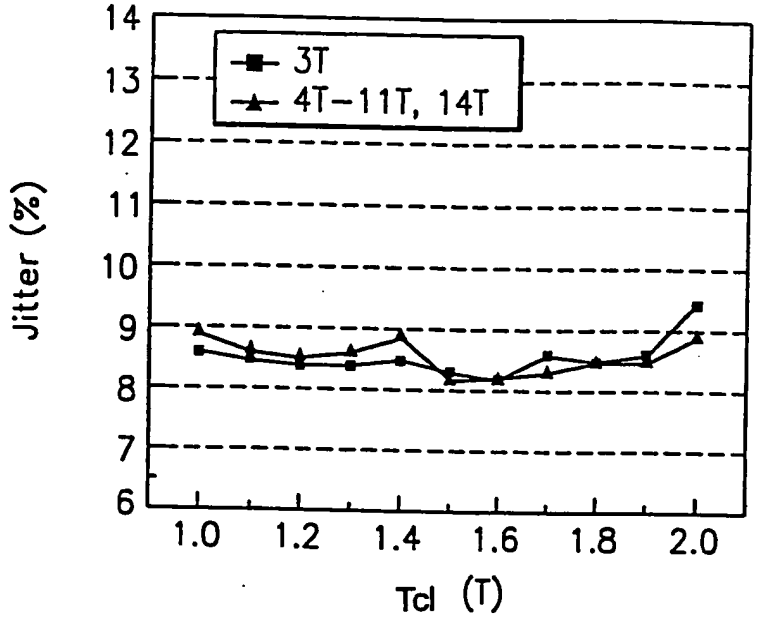


FIG. 13A
(PRIOR ART)

(b)

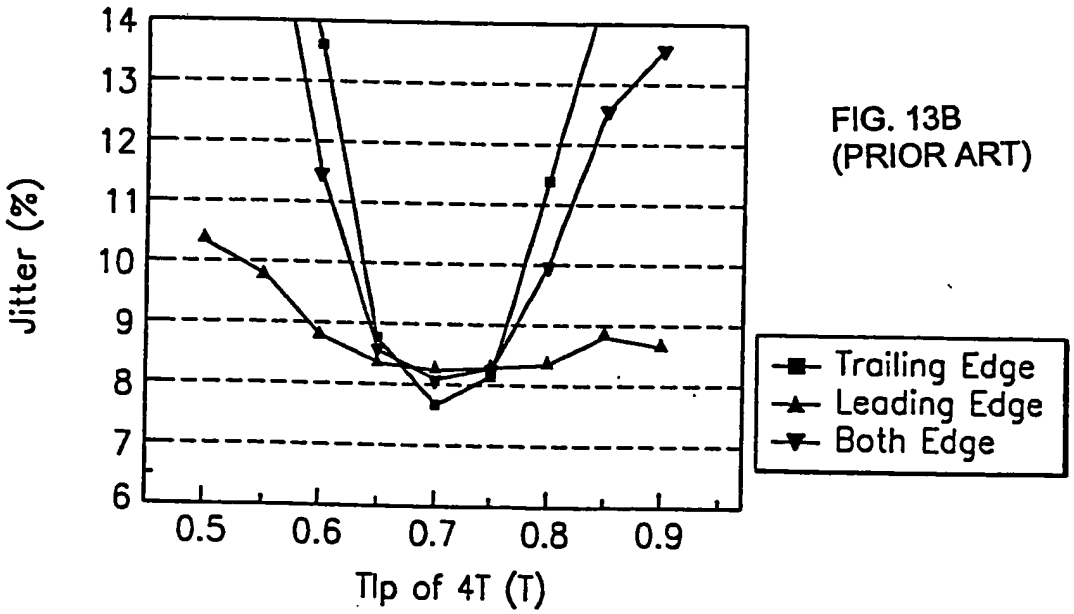


FIG. 13B
(PRIOR ART)

FIG. 14A

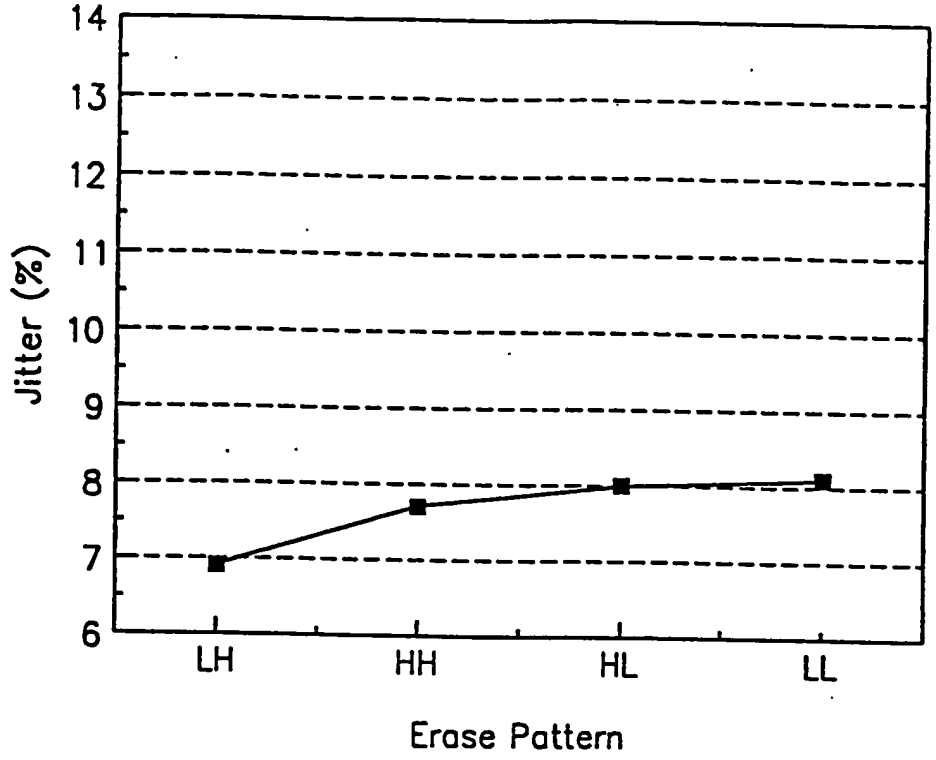


FIG. 14B

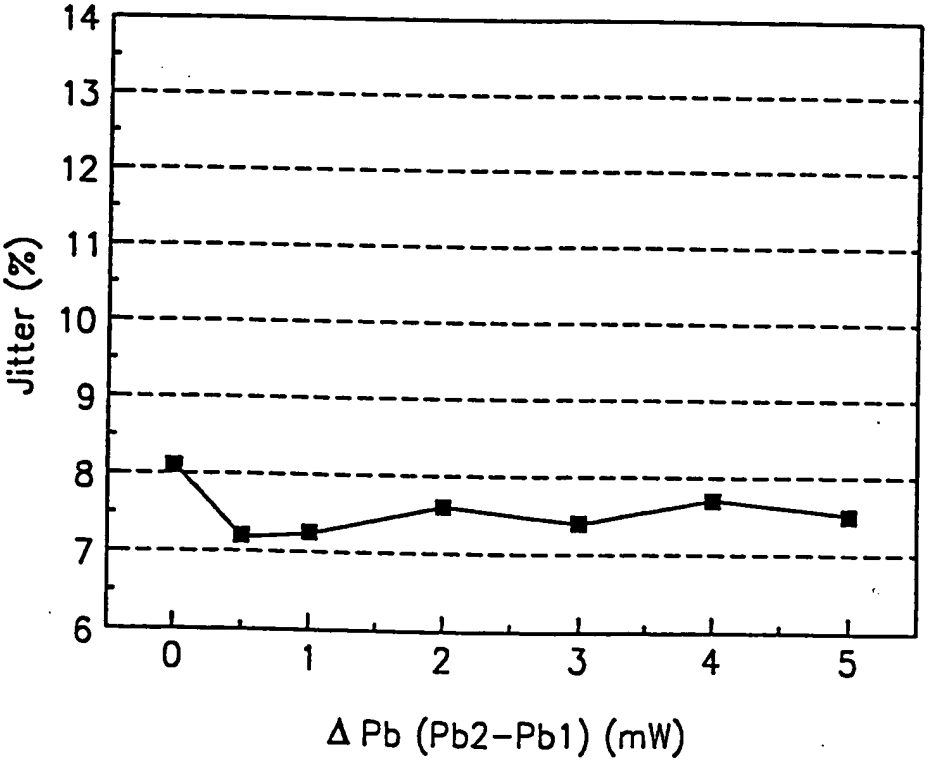


FIG. 15

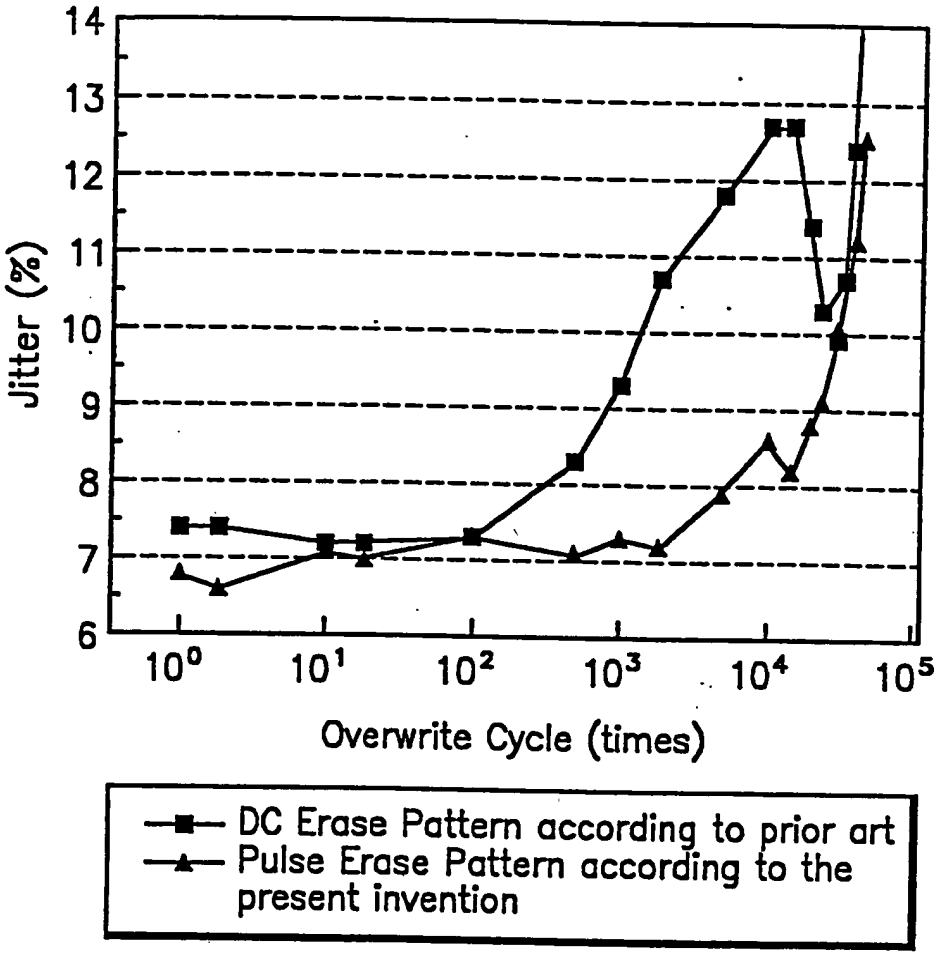

14
13
12
11
10
9
8
7
6
Jitter (%)
10^0
10^1
10^2
10^3
10^4
10^5
Overwrite Cycle (times)
DC Erase Pattern according to prior art
Pulse Erase Pattern according to the present invention

FIG. 16A (PRIOR ART)

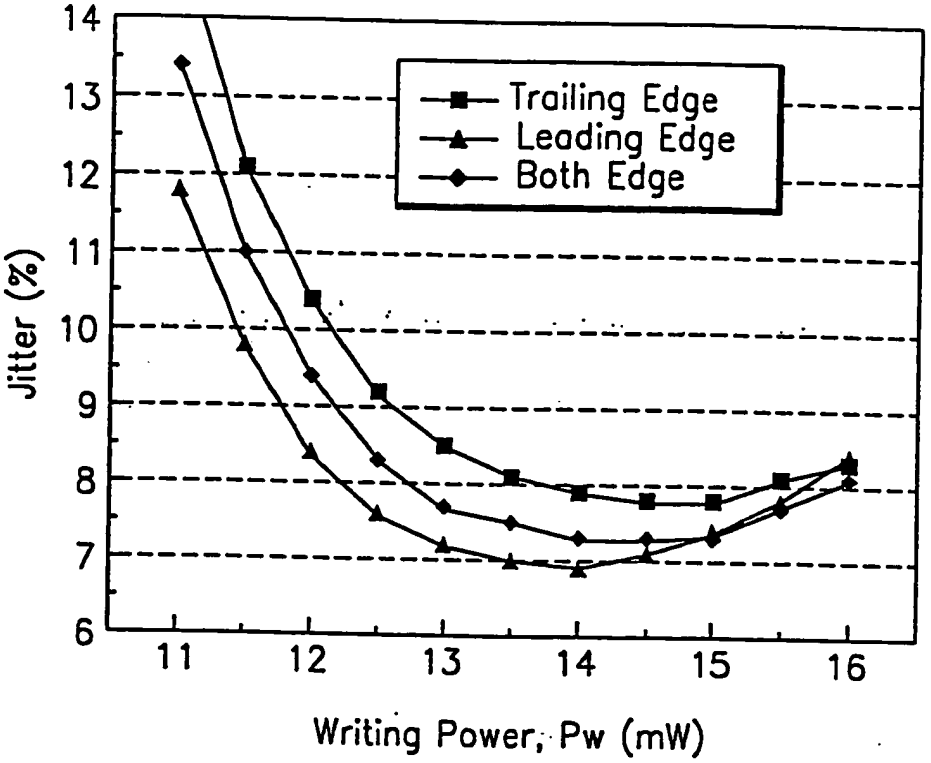
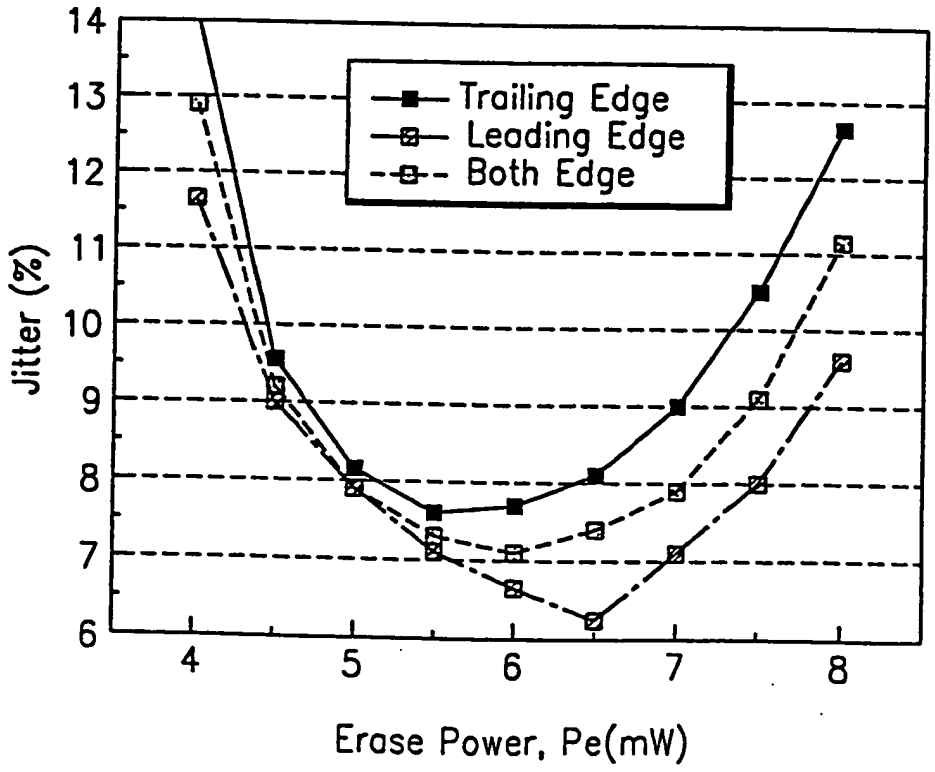


FIG. 16B (PRIOR ART)



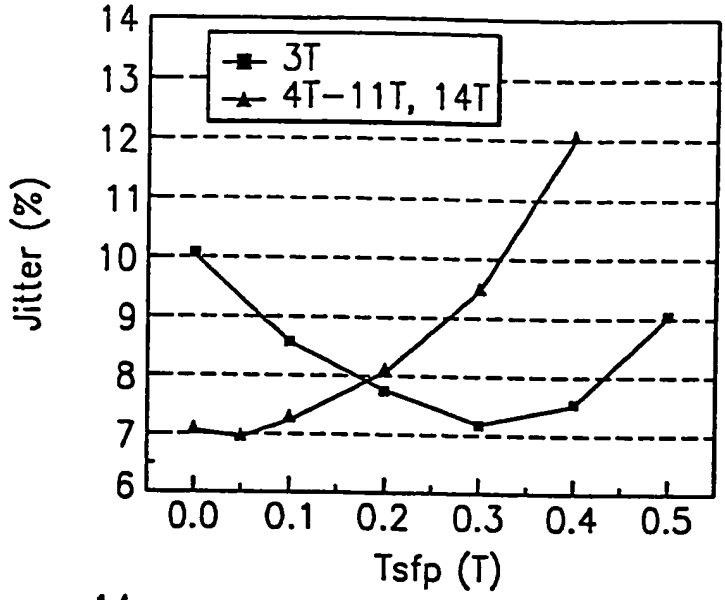


FIG. 17A
(PRIOR ART)

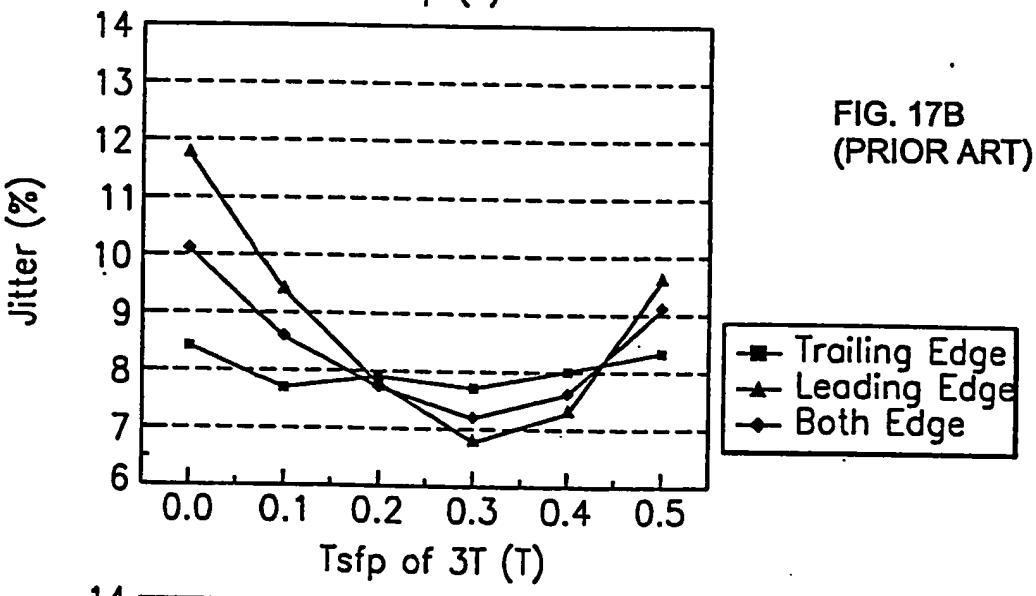


FIG. 17B
(PRIOR ART)

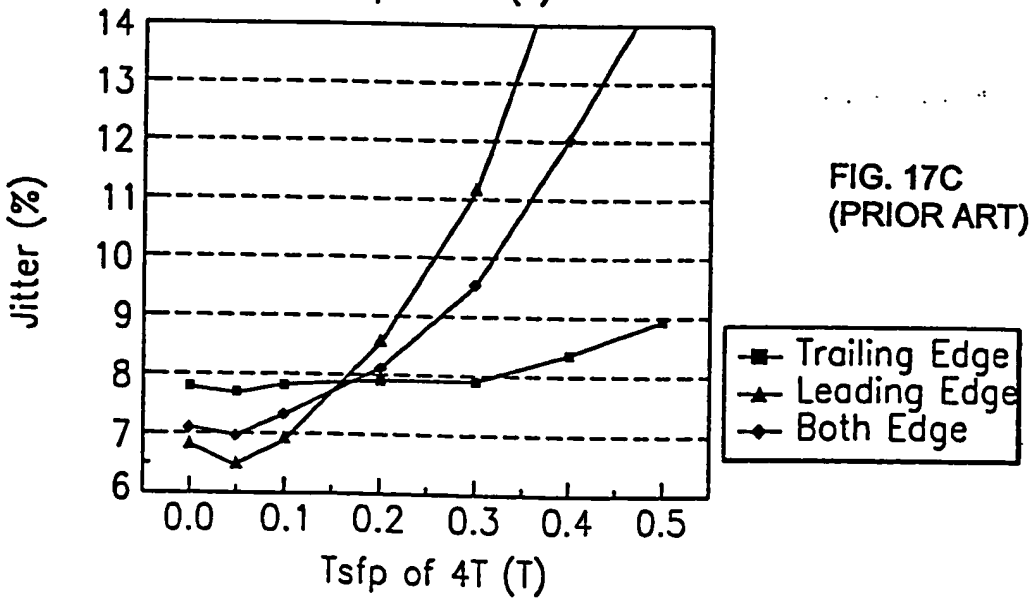


FIG. 17C
(PRIOR ART)

(a)

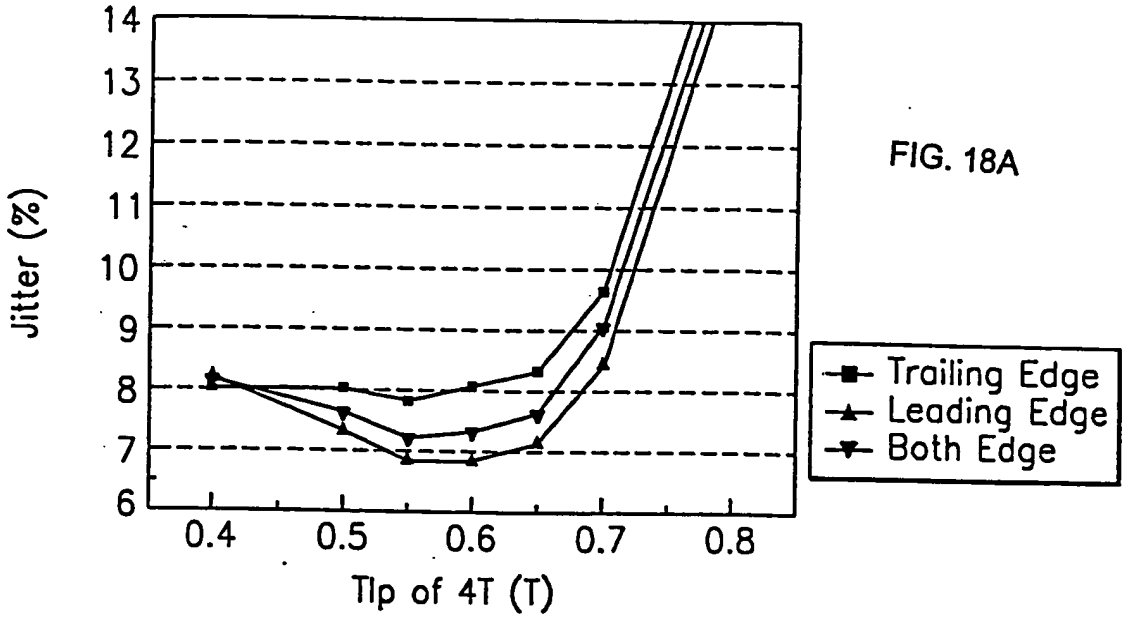


FIG. 18A

(b)

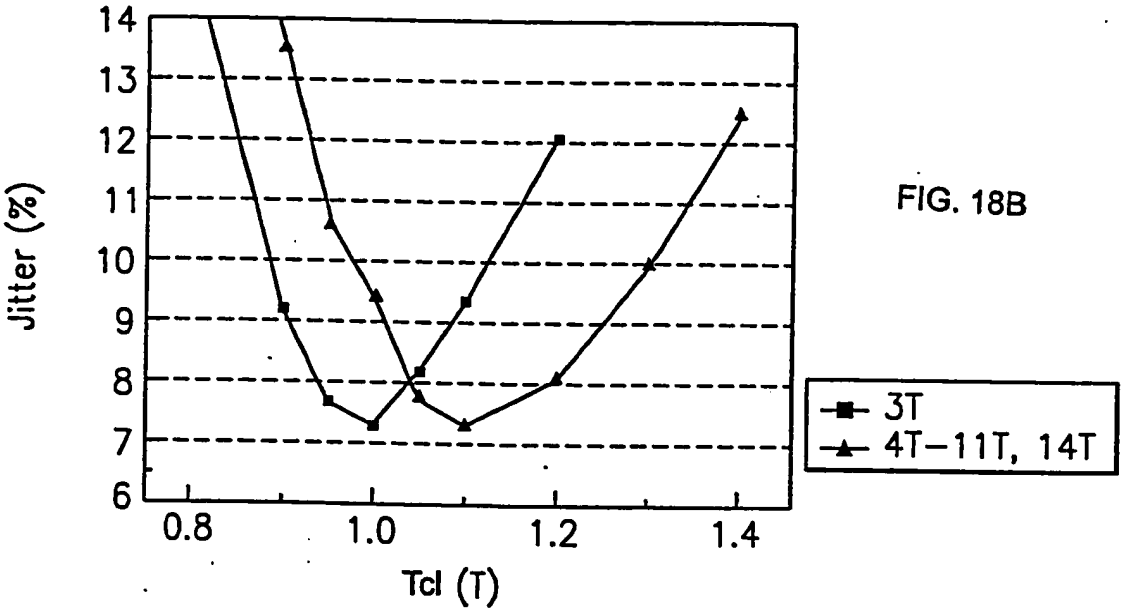


FIG. 18B

FIG. 19A

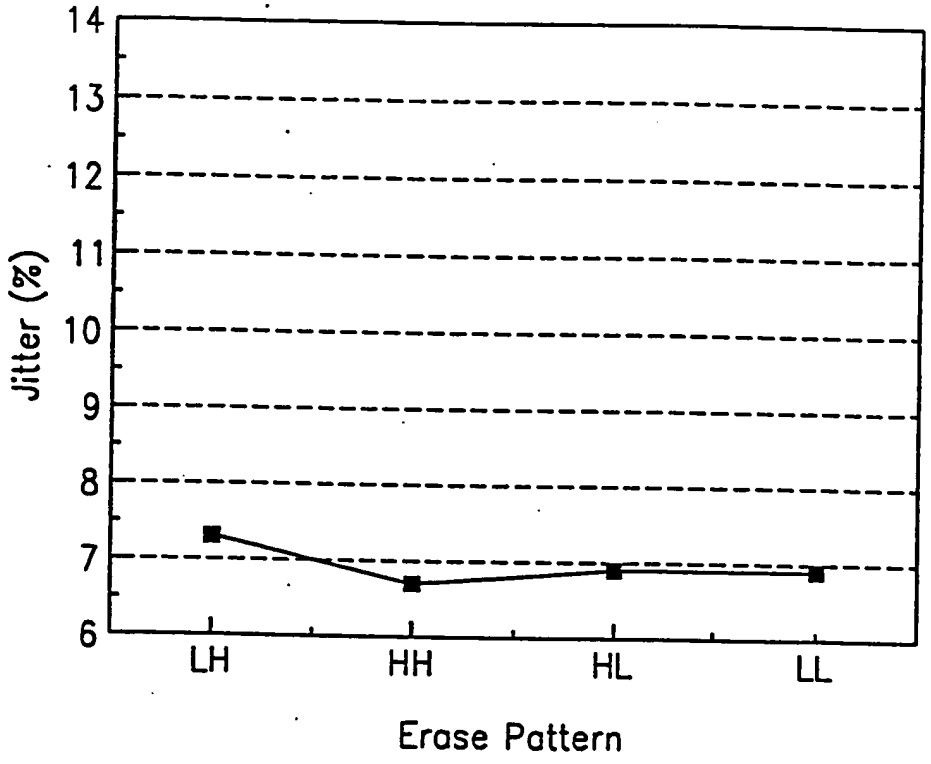


FIG. 19B

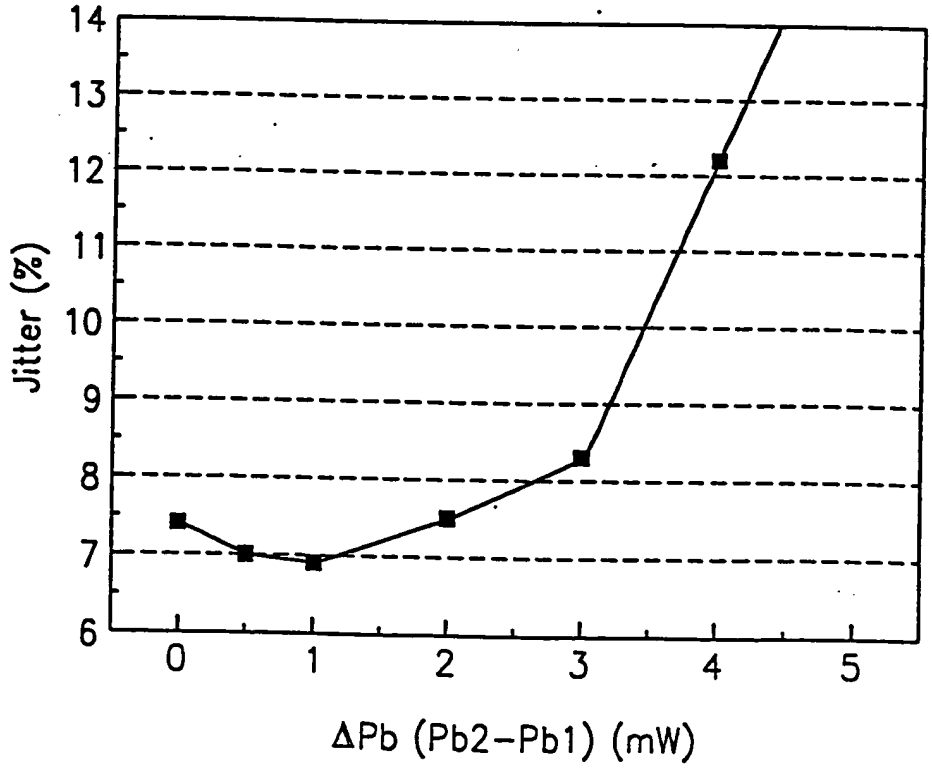


FIG. 20

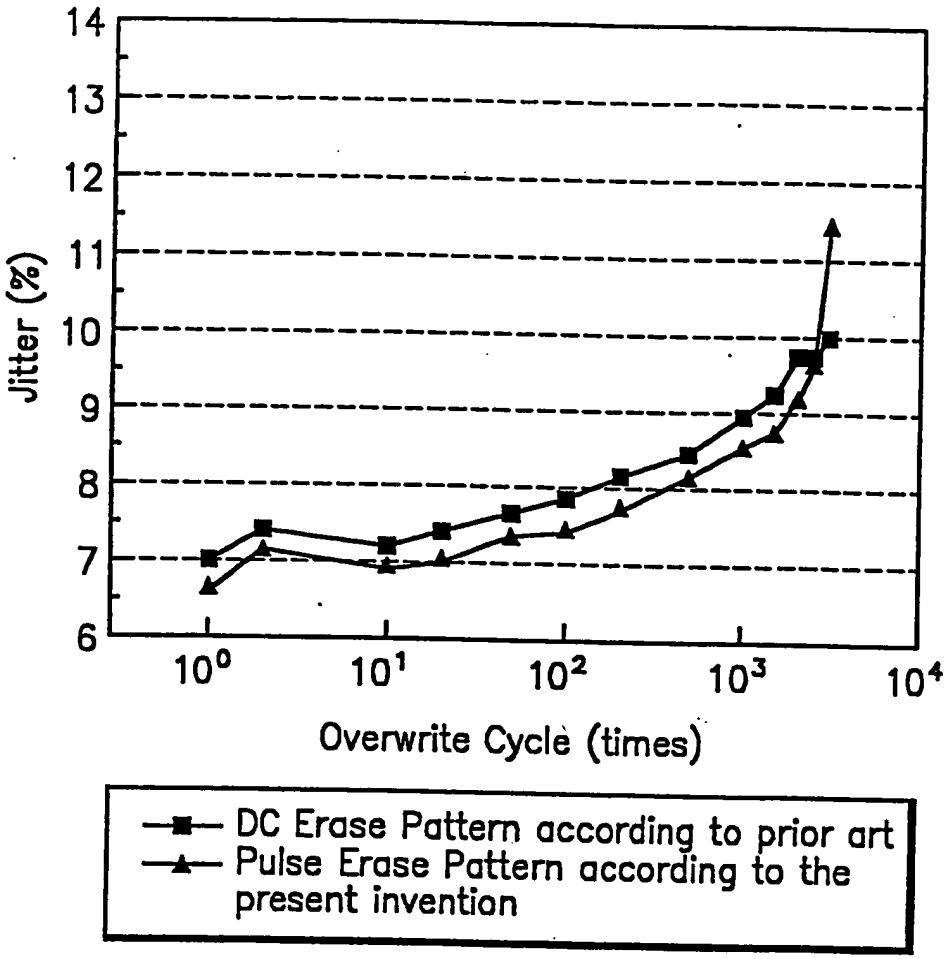
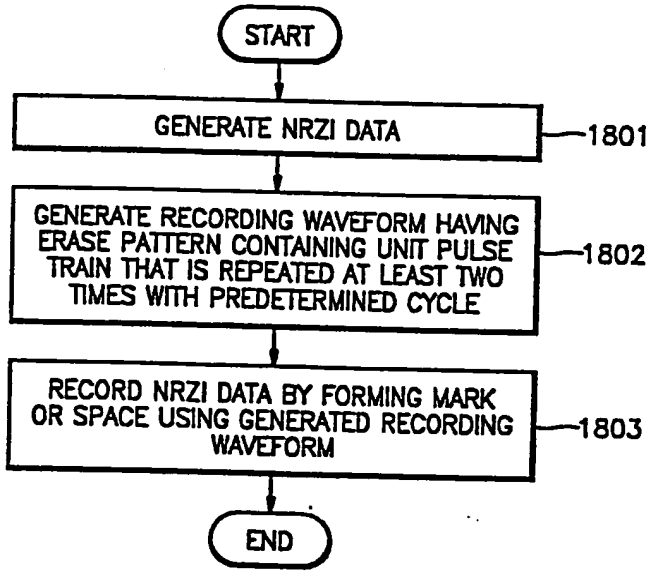

14
13
12
11
10
9
8
7
6
Jitter (%)
10^0
10^1
10^2
10^3
10^4
Overwrite Cycle (times)
DC Erase Pattern according to prior art
Pulse Erase Pattern according to the present invention

FIG. 21


START
GENERATE NRZI DATA
1801
GENERATE RECORDING WAVEFORM HAVING ERASE PATTERN CONTAINING UNIT PULSE TRAIN THAT IS REPEATED AT LEAST TWO TIMES WITH PREDETERMINED CYCLE
1802
RECORD NRZI DATA BY FORMING MARK OR SPACE USING GENERATED RECORDING WAVEFORM
1803
END